

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) An engine valve actuation system, comprising:
an intake valve;
a cam assembly configured to open and close an intake port associated with the intake valve; and
a separate actuator electromagnetically operated to selectively close the intake port at a different timing than the cam assembly, wherein the separate actuator is a latching solenoid including a solenoid coil and an armature coupled with a core, the armature and the core being movable together relative to the solenoid coil, the separate actuator being configured such that the armature and the core remain at a second position when a first current is removed.
2. (Cancelled)
3. (Cancelled)
4. (Currently Amended) The engine valve actuation system of claim [[3]]1, further including a pivotable rocker arm operably coupling the cam assembly with the intake valve.

5. (Original) The engine valve actuation system of claim 4, wherein the core includes an end configured to selectively engage the rocker arm opposite to the intake valve.

6. (Currently Amended) The engine valve actuation system of claim 5, further including a controller configured to move the armature and the core between a first position and ~~[[a]]~~the second position.

7. (Currently Amended) The engine valve actuation system of claim 6, wherein the controller is configured to apply ~~[[a]]~~the first current to the solenoid coil to move the armature and the core from the first position to the second position to engage the rocker arm to modify a timing of the intake valve.

8. (Cancelled)

9. (Original) The engine valve actuation system of claim 7, wherein the controller is configured to apply a second current to the solenoid coil to move the armature and the core from the second position to the first position to disengage from the rocker arm, the second current being opposite to the first current.

10. (Original) The engine valve actuation system of claim 9, wherein the electromagnetic actuator is configured such that the armature and the core remain at the second position when the controller removes the second current.

11. (Original) The engine valve actuation system of claim 9, wherein the controller is configured to apply a third current to the solenoid coil to move the armature and the core from the first position to the second position to engage the rocker arm to slow a closing velocity of the intake valve.

12. (Currently Amended) A method of controlling an engine having a piston moveable through an intake stroke followed by a compression stroke, comprising:
opening and closing an intake port associated with an intake valve via a cam;
and

operating a separate actuator having an electromagnetic latching solenoid associated with the intake valve when the intake port is open to selectively close the intake port at a different timing than the cam assembly, wherein operating includes controllably moving a coupled armature and core of the separate actuator between a first position and a second position by applying a first current to a solenoid coil of the separate actuator, and wherein the coupled armature stays in the second position after the first current is removed.

13. (Cancelled)

14. (Currently Amended) The method of claim ~~[[13]]~~12, wherein controllably moving ~~includes applying a first current to a solenoid coil of the separate actuator to~~ move the coupled armature and core ~~[[from]]~~ between the first position ~~[[to]]~~ and the

second position ~~to~~ includes engaging ~~engage~~ a rocker arm operably coupled with the intake valve to modify a timing of the intake valve.

15. (Original) The method of claim 14, wherein controllably moving includes applying a second current to the solenoid coil to move the coupled armature and core from the second position to the first position to disengage from the rocker arm, the second current being opposite to the first current.

16. (Original) The method of claim 15, further including applying a third current to the solenoid coil to move the coupled armature and core from the first position to the second position to engage the rocker arm to slow a closing velocity of the intake valve.

17-20. (Cancelled)

21. (Currently Amended) An engine valve actuation system, comprising:
an intake valve;

a cam assembly configured to open and close an intake port associated with the intake valve;

an electromagnetic actuator configured to affect closing of the intake port,
wherein the electromagnetic actuator is a latching solenoid having a solenoid coil and an armature coupled with a core, the armature and the core being movable together between a first position and a second position relative to the solenoid coil when a

current is applied, and wherein the armature and the core remain at the second position after the current is removed; and

a rocker arm disposed between the cam assembly and the electromagnetic actuator, the rocker arm configured to engage the intake valve.

22. (Cancelled).

23. (Cancelled).

24. (Previously Presented) The engine valve actuation system of claim 21, wherein the core includes an end configured to selectively engage an end of the rocker arm opposite to the intake valve.

25. (Currently Amended) The engine valve actuation system of claim 24, further including a controller configured to move the armature and the core between ~~[[a]]~~the first position and ~~[[a]]~~the second position.

26. (Currently Amended) A method of controlling an engine having a piston moveable through an intake stroke followed by a compression stroke, comprising:

moving an intake valve via a rocker arm to open and close an intake port during the intake stroke of the piston;

engaging a cam with an end of the rocker arm to affect movement of the intake valve; and

engaging an electromagnetic latching solenoid with an end of the rocker arm opposite the cam to selectively hold the intake port open, wherein engaging includes controllably moving a coupled armature and core of the electromagnetic actuator between a first position and a second position.

27. (Cancelled).

28. (Previously Presented) The engine valve actuation system of claim 25, wherein the cam is configured to engage an end of the rocker arm opposite the core.

29. (Currently Amended) A valve actuation system for an engine having at least one cylinder and at least one intake port associated with the at least one cylinder, comprising:

an intake valve;

a cam assembly mechanically linked to the intake valve to open and close the at least one intake port; and

~~an electromagnetic actuator~~ a latching solenoid including a solenoid coil and an armature coupled with a core, the armature and the core being movable together relative to the solenoid coil, the latching solenoid being selectively mechanically linked to the intake valve to selectively close the at least one intake port at a different timing than the cam assembly; and

a controller configured to apply a first current to the solenoid coil to move the armature and the core between a first position and a second position, wherein the

latching solenoid is configured such that the armature and the core remain at the first position when the controller removes the first current.

30. (Cancelled).

31. (Cancelled).

32. (Currently Amended) The engine valve actuation system of claim ~~[[31]]~~29, further including a pivotable rocker arm operably coupling the cam assembly with the intake valve.

33. (Previously Presented) The engine valve actuation system of claim 32, wherein the core includes an end configured to selectively engage the rocker arm opposite to the intake valve.

34. (Cancelled).

35. (Currently Amended) The engine valve actuation system of claim ~~[[34]]~~33, wherein ~~the controller is configured to apply a first current to the solenoid coil to move~~moving the armature and the core from the first position to the second position ~~to engage~~engages the rocker arm to modify a timing of the intake valve.

36. (Cancelled).

37. (Currently Amended) The engine valve actuation system of claim ~~[[36]]~~35, wherein the controller is configured to apply a second current to the solenoid coil to move the armature and the core from the second position to the first position to disengage from the rocker arm, the second current being opposite to the first current.

38. (Currently Amended) The engine valve actuation system of claim 37, wherein the ~~electromagnetic actuator~~latching solenoid is configured such that the armature and the core remain at the second position when the controller removes the second current.

39. (Previously Presented) The engine valve actuation system of claim 37, wherein the controller is configured to apply a third current to the solenoid coil to move the armature and the core from the first position to the second position to engage the rocker arm to slow a closing velocity of the intake valve.

40. (Currently Amended) A method of controlling an engine having a piston moveable through an intake stroke followed by a compression stroke, comprising:

moving an intake valve to open and close an intake port via a cam that is mechanically linked to the intake valve; and

moving the intake valve to close the intake port via an electromagnetic actuator that is selectively mechanically linked to the intake valve, wherein the electromagnetic

actuator is a latching solenoid configured to hold the intake valve open until a first current is applied to the electromagnetic actuator.

41. (Previously Presented) The method of claim 40, wherein moving the intake valve to close the intake port via an electromagnet actuator includes controllably moving a coupled armature and core of the electromagnetic actuator between a first position and a second position.

42. (Currently Amended) The method of claim 41, wherein moving the intake valve to close the intake port via an electromagnet actuator includes applying ~~[[a]]~~the first current to a solenoid coil of the electromagnetic actuator to move the coupled armature and core from the first position to the second position to engage a rocker arm operably coupled with the intake valve to modify a timing of the intake valve.

43. (Previously Presented) The method of claim 42, wherein controllably moving includes applying a second current to the solenoid coil to move the coupled armature and core from the second position to the first position to disengage from the rocker arm, the second current being opposite to the first current.

44. (Previously Presented) The method of claim 43, further including applying a third current to the solenoid coil to move the coupled armature and core from the first position to the second position to engage the rocker arm to slow a closing velocity of the intake valve.